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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/049,936      | 04/29/2002  | Hildegard Romer      | WEI0040             | 2555             |

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03/19/2004

EXAMINER

HALPERN, MARK

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1731

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/049,936

Applicant(s)

ROMER ET AL.

Examiner

Mark Halpern

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/11/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1) Claims 1-2, 6-7, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev et al (6,058,741).

Claims 1, 6-7: Sobolev discloses a cooled induction melter 20 constructed of a housing 21, sidewalls 22 and a bottom 23 made of metal pipes, wherein said metal pipes are separated from each other by gap 24. The metal pipes are combined by a collector 25 for supplying and discharging a coolant medium to the metal pipes. An inductor 35 is positioned to concentrically encompass the sidewalls 22. An aperture for disposal of the discharge of the melt inside the melter is made in the bottom 23 of the housing directly adjacent to the wall 21 (col. 6, line 34 to col. 7, line 29, and Figure 5). As shown in Figure 5, the said collector that is supplying and discharging a coolant connects the metal pipes to each other and therefore the collector is short-circuiting the metal pipes. Sobolev is silent on the material of construction of said collector, however, it would have been obvious to one skilled in the art at the time the invention was made, that the collector be made of a metal as are the metal pipes since both the collector and the pipes are exposed to the same operating conditions.

Claim 2: the short-circuiting is in the upper end of the metal pipes as shown in Figure 5.

2) Claims 3-4, 8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sobolev et al in view of Lifanov et al ("A Crucible-Type Induction Furnace for Melting Glass", US Consultants Bureau, vol. 48, no. 7, July 1991, pgs. 288-290).

Claims 3-4: Sobolev is applied as above for claim 1, Sobolev fails to disclose the short-circuit designed for the area of the base. Lifanov discloses essentially the same crucible design as does Sobolev, however, the Lifanov design includes a top 3 and a bottom 1 collector supplying and discharging a coolant medium to the metal pipes (Lifanov, pgs. 288-289, and Figure 1). Thus both the top and the bottom collectors of Lifanov are short-circuiting the metal pipes. It would have been obvious to one skilled in the art at the time the invention was made, to combine the teachings of Sobolev and Lifanov because such a combination would provide for more efficient cooling of the crucible of the design of Sobolev.

Claim 8: as shown in Figure 5 of Sobolev, the metal pipes are combined by a collector 25 for supplying and discharging a coolant medium to the metal pipes.

***Allowable Subject Matter***

3) Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for indicating allowable subject matter is that the cited prior art does not show a skull pot of design where the height of a short-circuit can be adjusted (claim 5).

### **Conclusion**

4) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halpern whose telephone number is 571-272-1190. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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